

Patent claims

1. A method for the computer-aided provision of database information of a first database,
 - 5 • in which, for the first database, a first statistical model is formed which represents the statistical relationships between the data elements contained in the first database,
 - in which the first statistical model is stored in a server computer,
 - 10 • in which the first statistical model is transmitted from the server computer to a client computer via a communications network,
 - in which the received, first statistical model is 15 further processed by the client computer.
2. The method as claimed in claim 1, in which an overall statistical model is formed using the first statistical model and data elements of a second database stored in the client computer, which model has at least some of the statistical information contained in the first statistical model and some of the statistical information contained in the second database.
- 25 3. The method as claimed in claim 1,
 - in which, for a second database, a second statistical model is formed which represents the statistical relationships between the data elements contained in the second database,
 - in which the second statistical model is transmitted to the client computer via the communications network,
 - 30 • in which an overall statistical model, which has at least some of the statistical information contained in the first statistical model and some of the statistical information contained in the second statistical model, is formed by the client

computer using the first statistical model and the second statistical model.

4. The method as claimed in claim 3,
 - 5 • in which the second statistical model is stored in a second server computer,
 - in which the second statistical model is transmitted from the second server computer to the client computer via a communications network.

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5. The method as claimed in one of claims 1 to 4, in which at least one of the statistical models is formed by means of a scalable method with which the degree of compression of the statistical model compared to the data elements contained in the respective database can be set.

- 15 6. The method as claimed in one of claims 1 to 5, in which at least one of the statistical models is formed by means of an EM learning method or by means of a gradient-based learning method.

- 20 7. The method as claimed in one of claims 1 to 6, in which the first database and/or the second database has/have data elements which describe at least one technical system.

- 25 8. The method as claimed in claim 7, in which the data elements describing the at least one technical system represent values which are measured at least partially on the technical system and which describe the operating behavior of the technical system.

- 30 9. The method for the computer-aided formation of a statistical model of a database which has a plurality of data elements,

- in which an EM learning method is carried out on the data elements so that statistical

relationships between the data elements are determined for a predefinable, directional graph,

- wherein the directional graph has nodes and edges,
- wherein the edges describe predefinable, observable database states and non-observable database states,
- in which, within the scope of the EM learning method, only the expected values are determined for the observable database states and for the non-observable database states whose parent database states are observable database states.

10. A computer arrangement for the computer-aided provision of database information of a first database,

- 15 • having a server computer in which a first statistical model which is formed for a first database is stored, wherein the first statistical model represents the statistical relationships of the data elements contained in the first database,
- 20 • having a client computer which is coupled to the server computer by means of a communications network and which is configured for further processing the first statistical model which is transmitted from the server computer to the client computer via the communications network.

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11. The computer arrangement as claimed in claim 10,

- in which a second database having data elements is stored in the client computer,
- 30 • wherein the client computer has a unit for forming an overall statistical model using the first statistical model and the data elements of the second database, wherein the overall statistical model has at least some of the statistical information contained in the first statistical model and some of the statistical information contained in the second database.

- 56 -

12. The computer arrangement as claimed in claim 10,

- having a second server computer in which a second statistical model which is formed for a second database is stored, wherein the second statistical model represents the statistical relationships of the data elements contained in the second database,
- wherein the client computer is coupled to the second server computer by means of the communications network,
- wherein the client computer has a unit for forming an overall statistical model using the first statistical model and the second statistical model, wherein the overall statistical model has at least some of the statistical information contained in the first statistical model and some of the statistical information contained in the second statistical model.